09/667350

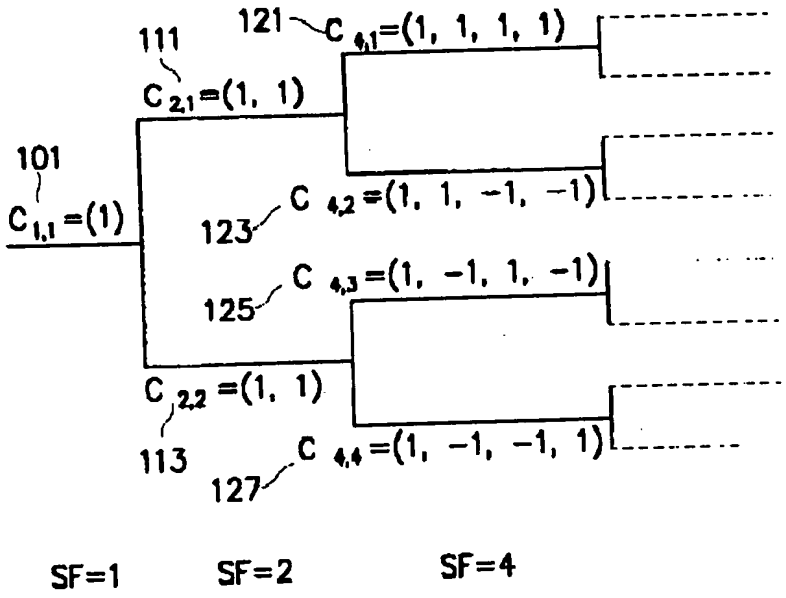



FIG. 1

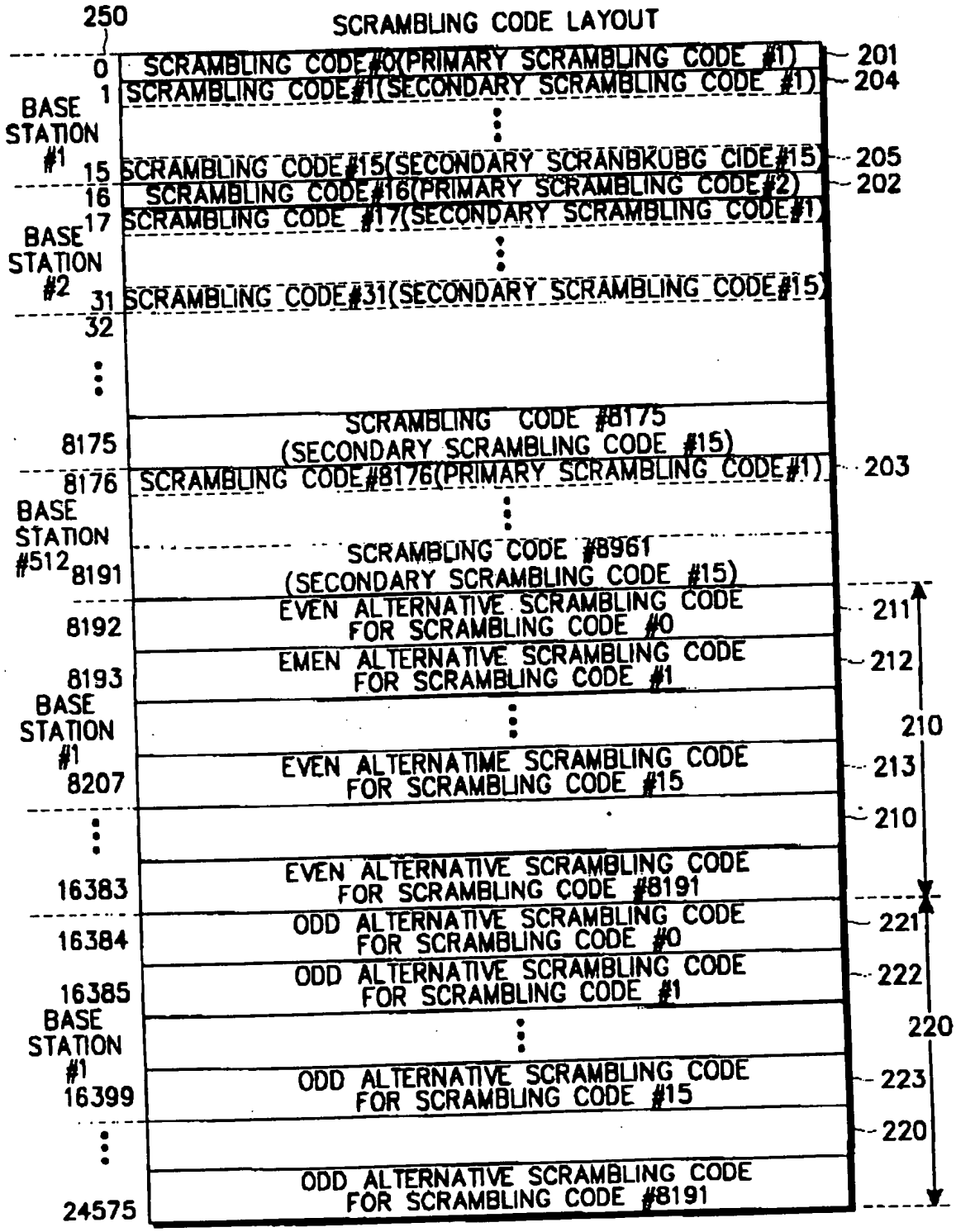

250
SCRAMBLING CODE LAYOUT
0
SCRAMBLING CODE#0(PRIMARY SCRAMBLING CODE #1)
201
1
SCRAMBLING CODE#1(SECONDARY SCRAMBLING CODE #1)
204
BASE STATION #1
15
SCRAMBLING CODE#15(SECONDARY SCRANBKUBG CIDE#15)
205
16
SCRAMBLING CODE#16(PRIMARY SCRAMBLING CODE#2)
202
17
SCRAMBLING CODE #17(SECONDARY SCRAMBLING CODE#1)
BASE STATION #2
31
SCRAMBLING CODE#31(SECONDARY SCRAMBLING CODE#15)
32
8175
SCRAMBLING CODE #8175 (SECONDARY SCRAMBLING CODE #15)
8176
SCRAMBLING CODE#8176(PRIMARY SCRAMBLING CODE#1)
203
BASE STATION #512
8191
SCRAMBLING CODE #8961 (SECONDARY SCRAMBLING CODE #15)
8192
EVEN ALTERNATIVE SCRAMBLING CODE FOR SCRAMBLING CODE #0
211
8193
EMEN ALTERNATIVE SCRAMBLING CODE FOR SCRAMBLING CODE #1
212
BASE STATION #1
8207
EVEN ALTERNATIME SCRAMBLING CODE FOR SCRAMBLING CODE #15
213
210
210
16383
EVEN ALTERNATIVE SCRAMBLING CODE FOR SCRAMBLING CODE #8191
16384
ODD ALTERNATIVE SCRAMBLING CODE FOR SCRAMBLING CODE #0
221
16385
ODD ALTERNATIVE SCRAMBLING CODE FOR SCRAMBLING CODE #1
222
BASE STATION #1
16399
ODD ALTERNATIVE SCRAMBLING CODE FOR SCRAMBLING CODE #15
223
220
220
24575
ODD ALTERNATIVE SCRAMBLING CODE FOR SCRAMBLING CODE #8191

FIG. 2

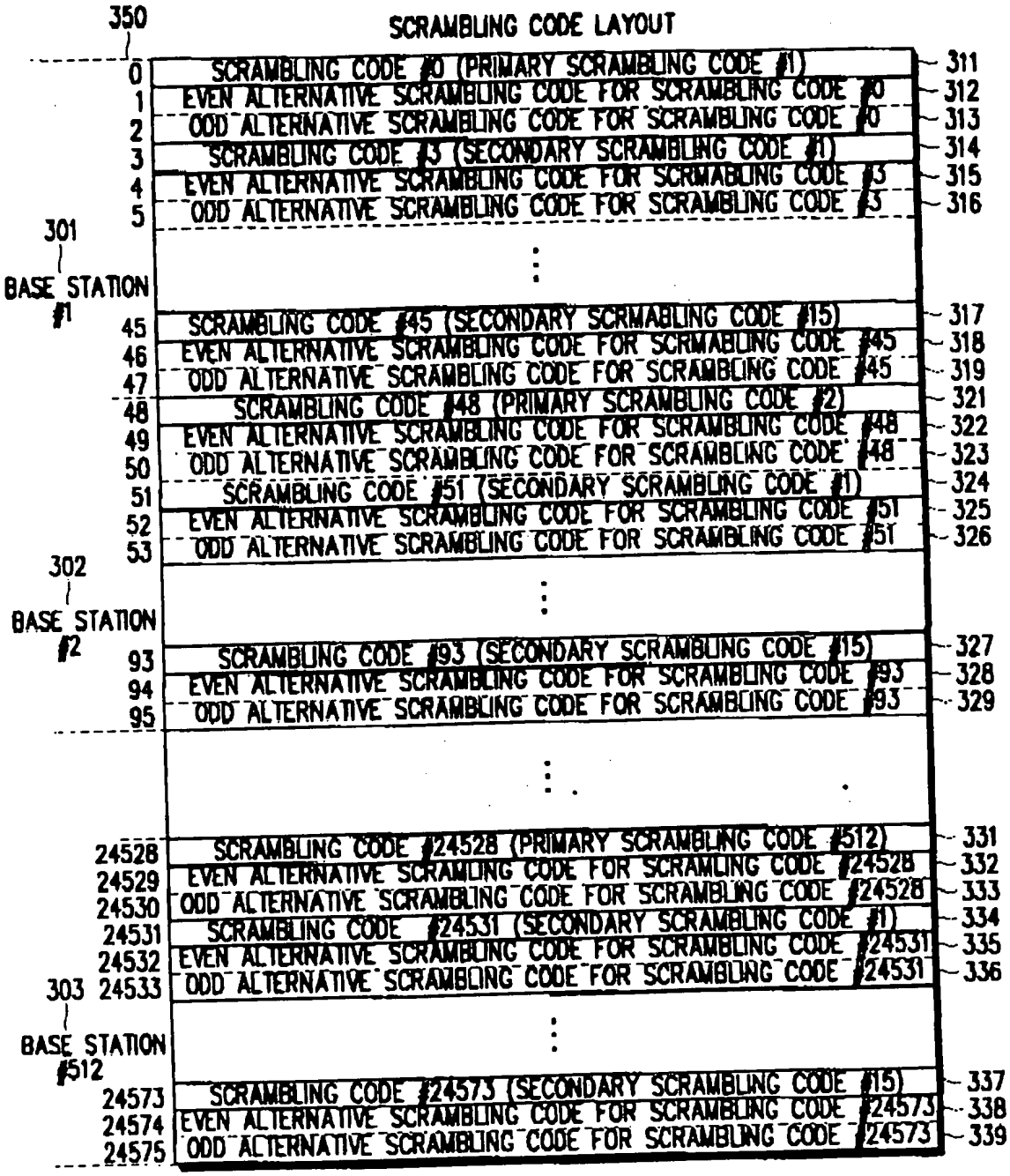



FIG. 3

0022050-0956350

FIG. 4

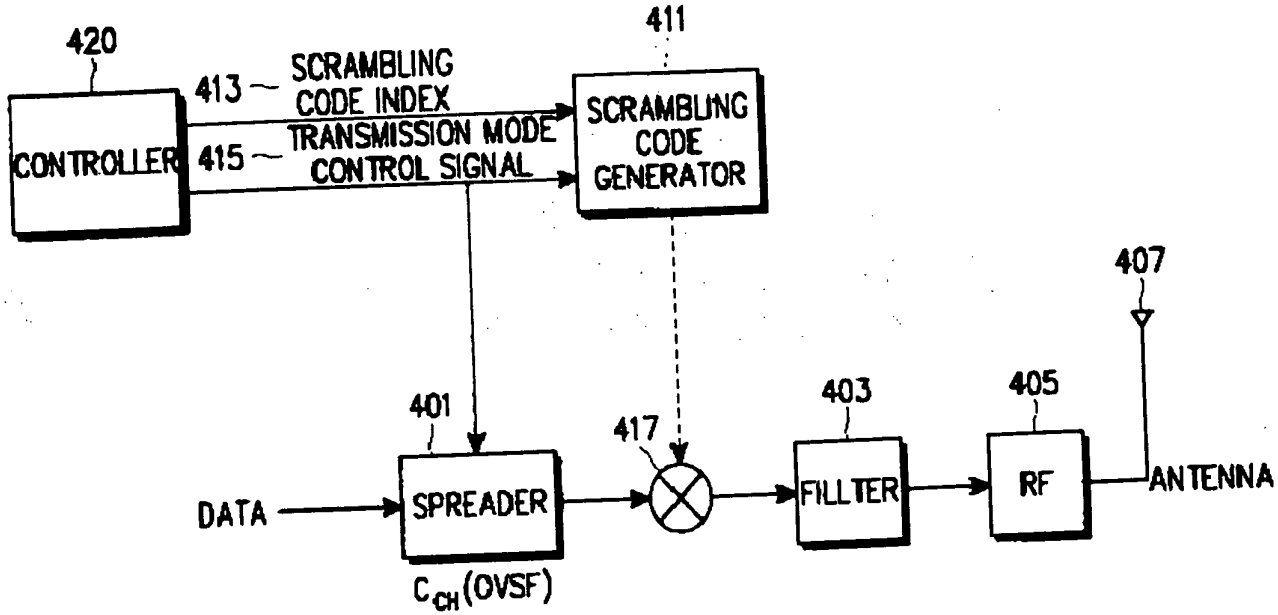

420
CONTROLLER
413
SCRAMBLING CODE INDEX
415
TRANSMISSION MODE CONTROL SIGNAL
411
SCRAMBLING CODE GENERATOR
407
401
417
403
405
DATA
SPREADER
FILLTER
RF
ANTENNA
$C_{CH}$(OVSF)

FIG. 5

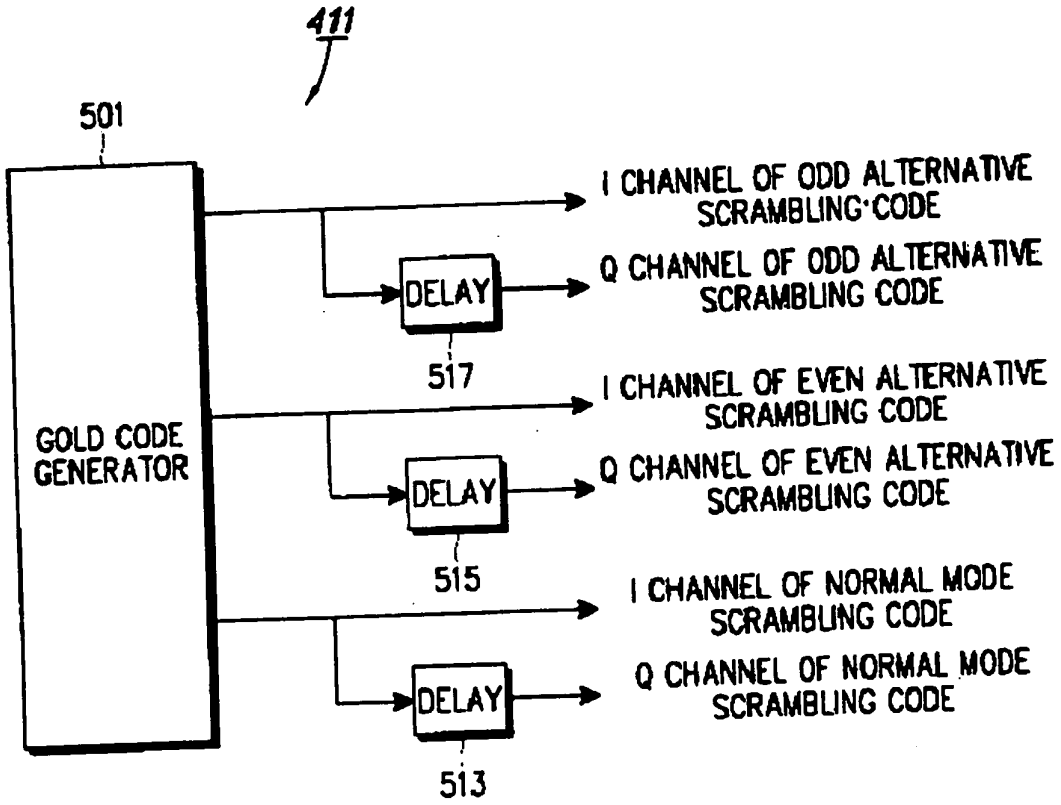
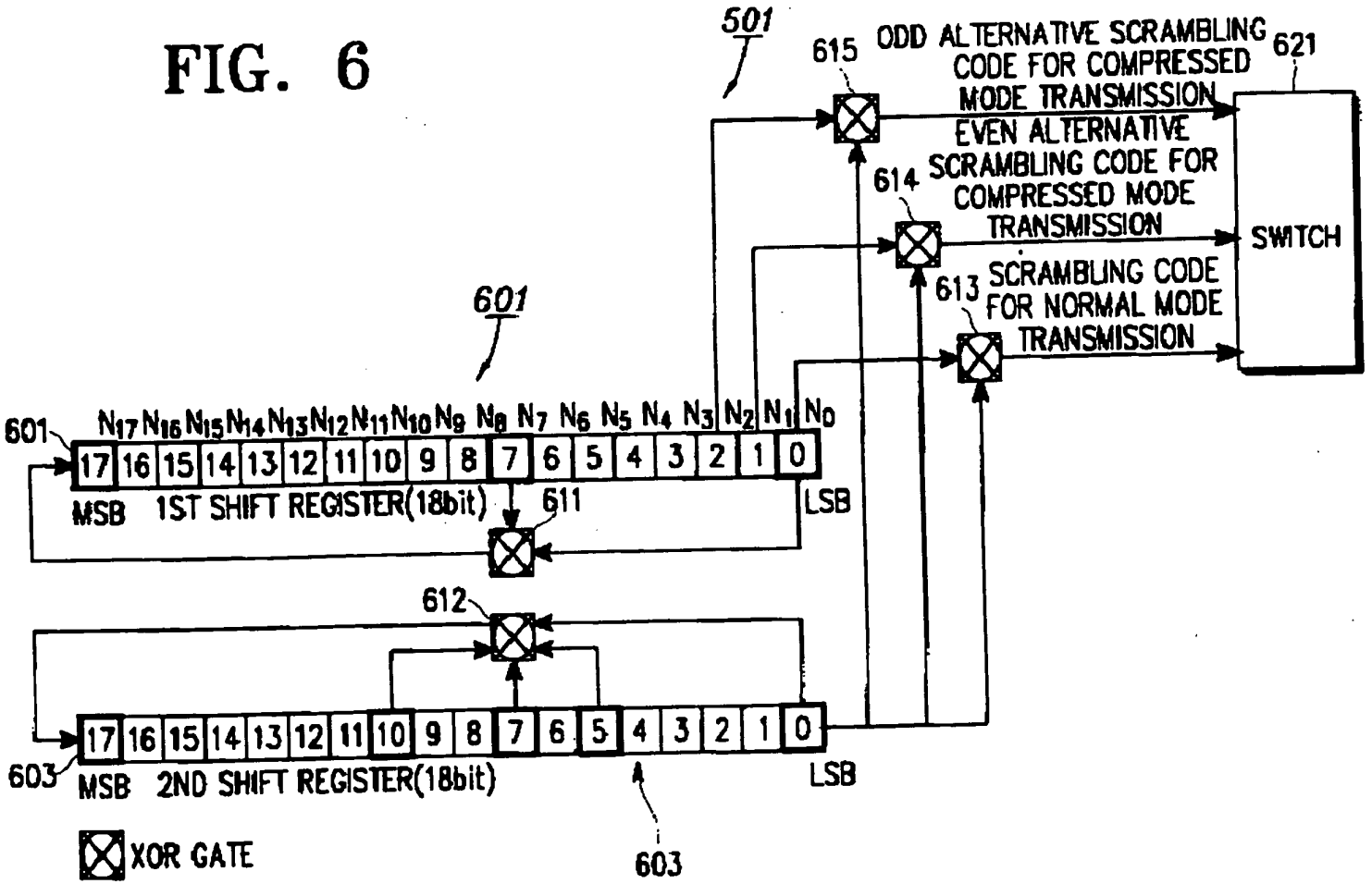
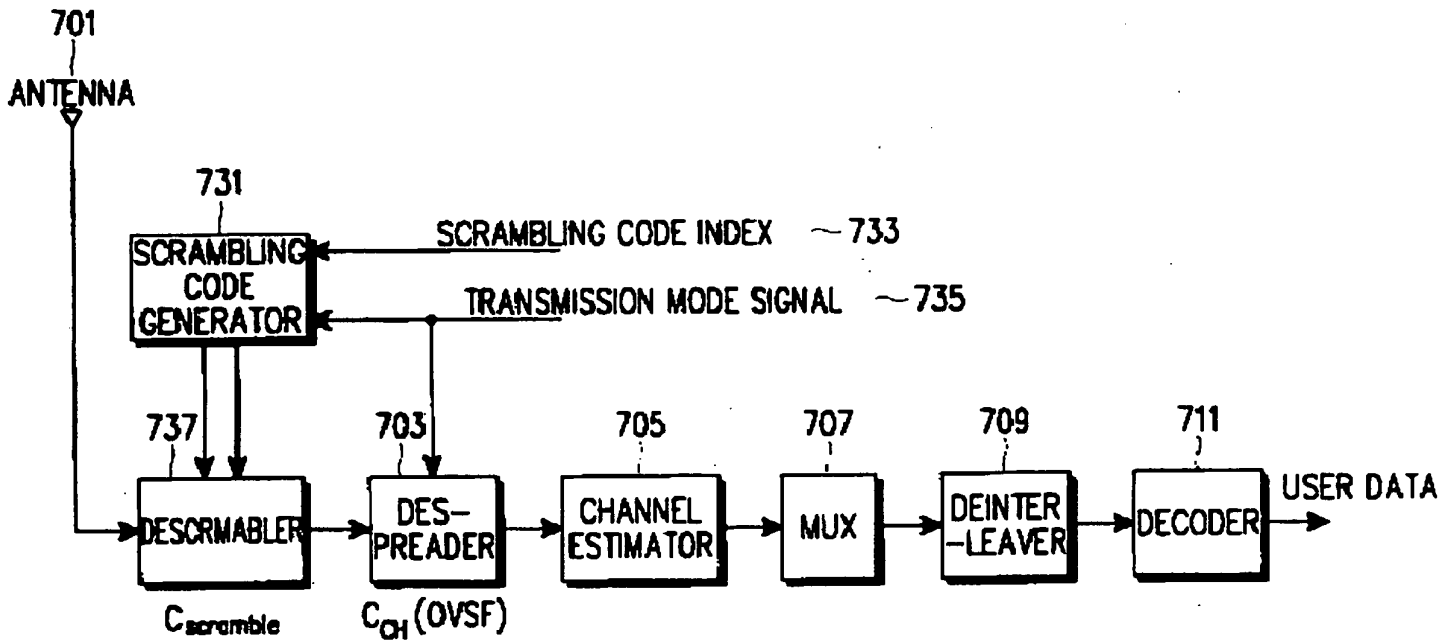

411
501
GOLD CODE GENERATOR
I CHANNEL OF ODD ALTERNATIVE SCRAMBLING CODE
DELAY
Q CHANNEL OF ODD ALTERNATIVE SCRAMBLING CODE
517
I CHANNEL OF EVEN ALTERNATIVE SCRAMBLING CODE
DELAY
Q CHANNEL OF EVEN ALTERNATIVE SCRAMBLING CODE
515
I CHANNEL OF NORMAL MODE SCRAMBLING CODE
DELAY
Q CHANNEL OF NORMAL MODE SCRAMBLING CODE
513

FIG. 6




INITIAL VALUE FOR SHIFT REGISTER 601 : <1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0>
INITIAL VALUE FOR SHIFT REGISTER 602 : <1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1>
$n_i$=PUTOUT BIT OF EACH REGISTER IN SHIFT REGISTER i(i=0,...,17)

FIG. 7


701
ANTENNA
731
SCRAMBLING CODE GENERATOR
SCRAMBLING CODE INDEX
733
TRANSMISSION MODE SIGNAL
735
737
703
705
707
709
711
DESCRAMBLER
DES-PREADER
CHANNEL ESTIMATOR
MUX
DEINTER-LEAVER
DECODER
USER DATA
$C_{scramble}$
$C_{OH}$ (OVSF)

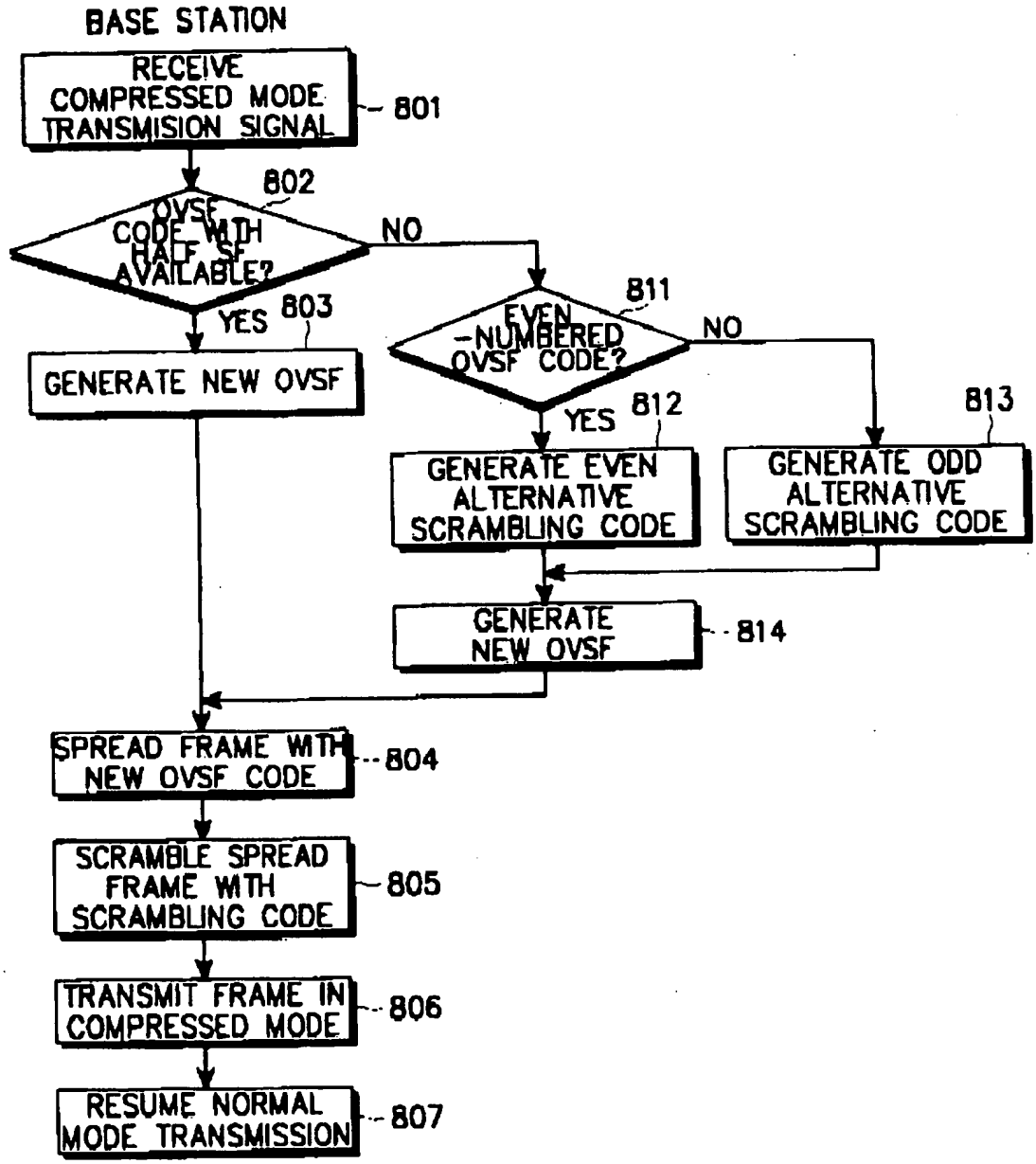

BASE STATION
RECEIVE COMPRESSED MODE TRANSMISION SIGNAL
801
802
OVSF CODE WITH HALF SF AVAILABLE?
NO
YES
803
GENERATE NEW OVSF
811
EVEN-NUMBERED OVSF CODE?
NO
YES
812
GENERATE EVEN ALTERNATIVE SCRAMBLING CODE
813
GENERATE ODD ALTERNATIVE SCRAMBLING CODE
GENERATE NEW OVSF
814
SPREAD FRAME WITH NEW OVSF CODE
804
SCRAMBLE SPREAD FRAME WITH SCRAMBLING CODE
805
TRANSMIT FRAME IN COMPRESSED MODE
806
RESUME NORMAL MODE TRANSMISSION
807

FIG. 8

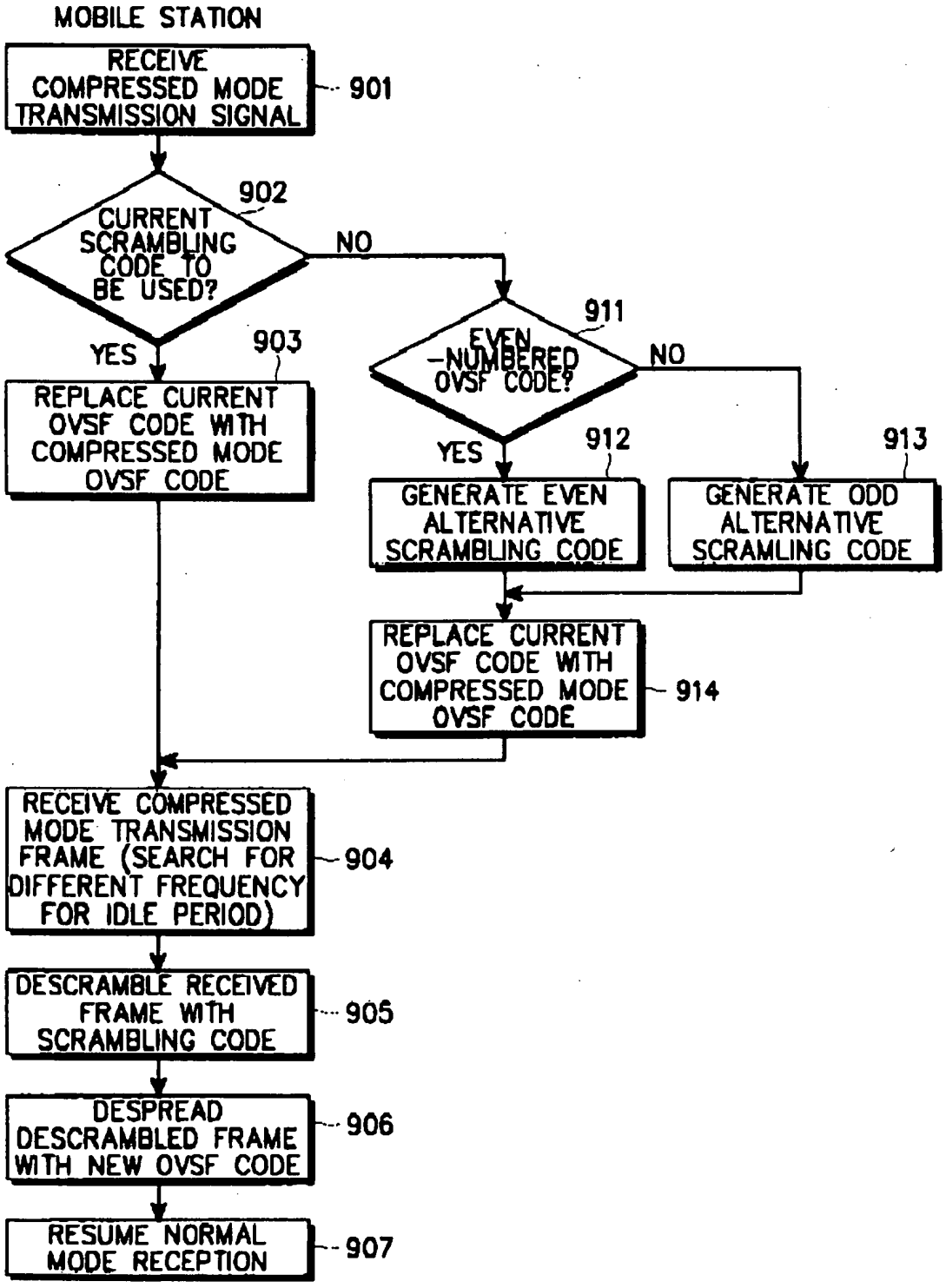

MOBILE STATION
RECEIVE COMPRESSED MODE TRANSMISSION SIGNAL
901
CURRENT SCRAMBLING CODE TO BE USED?
902
NO
YES
903
REPLACE CURRENT OVSF CODE WITH COMPRESSED MODE OVSF CODE
EVEN -NUMBERED OVSF CODE?
911
NO
YES
912
GENERATE EVEN ALTERNATIVE SCRAMBLING CODE
913
GENERATE ODD ALTERNATIVE SCRAMLING CODE
REPLACE CURRENT OVSF CODE WITH COMPRESSED MODE OVSF CODE
914
RECEIVE COMPRESSED MODE TRANSMISSION FRAME (SEARCH FOR DIFFERENT FREQUENCY FOR IDLE PERIOD)
904
DESCRAMBLE RECEIVED FRAME WITH SCRAMBLING CODE
905
DESPREAD DESCRAMBLED FRAME WITH NEW OVSF CODE
906
RESUME NORMAL MODE RECEPTION
907

FIG. 9